THE AUSTRALIAN
JOURNAL OF PHYSIOTHERAPY

VOLUME 10 AUGUST, 1964 NUMBER 2

THE PAST AND FUTURE OF PHYSIOTHERAPY[1]

D. W. L. PARKER, O.B.E., M.CH.ORTH., F.R.C.S. (EDIN.), F.R.A.C.S.

Hobart

THE PAST

The history of the practice of physiotherapy is as old as the practice of medicine.

The word massage is derived through the Greek from an Arabic word *mass*, which means to press softly.

Friction has been applied to the treatment of disease and injury of limbs since the dawn of time.

Hippocrates, the father of Greek medicine, writes: "The physician must understand many things and friction not the least of all. For friction can bind a joint that is too loose and loosen a joint that is too rigid. Friction warms the flesh, hardens it and makes it grow as it draws more nourishment through the vessels and increases its growth."

The other branches of physiotherapy were used extensively by both Greeks and Romans. Heliotherapy was undoubtedly used.

The Roman therapeutic baths are still in use in the city of Bath in Great Britain.

Exercises and remedial exercises also played their part in treatment. Modern remedial gymnastics originates from the work of Ling of Sweden. He it was who founded the now famous Swedish Gymnastic System at the beginning of the nineteenth century.

Electric therapy was used in Roman times, the electric eel being the source of current. It appears to have been exploited. In fact it was not in proper use until the middle of the eighteenth century, when Benjamin Franklin, America's first scientist, was using Leyden's jars in the treatment of paralysis and various nervous disorders.

Unfortunately the use of electricity in treatment was exploited by charlatans and quacks, but it is interesting to know that the electric machine was first used by the Middlesex Hospital in 1767, and the first Department of Electro Therapy was established at Guy's Hospital in 1856.

It has been said that: "The times bring forth the man." They also bring forth the woman. Thus when our existing services have fallen below requirements there is generally an inspired individual who, by personality, zeal, and gift of leadership, has instituted changes for the good of mankind and society generally. Florence Nightingale was just such a person.

The British Chartered Society of Physiotherapy owes its beginnings to the dissatisfaction of two women with the standards of physiotherapy practised in England at the end of the nineteenth century. Massage was being exploited by uneducated "quacks" and many of their treatment institutes came to have distinctly sinister reputations. In 1894, Lucy Robinson, a trained masseuse and midwife of the London Hospital, and Rosalind Paget, a trained nursing sister, also of the London Hospital, together with eight other enthusiasts, initiated their Society of Trained Masseuses. Their object was to hold examinations and issue certificates. The first

[1]The Presidential Address and the President's Closing Lecture delivered at the Xth Biennial Congress of the Australian Physiotherapy Association, Hobart, 1964.

course of training was of two weeks duration. Thus was born the Chartered Society of Physiotherapy of Great Britain.

Early in 1905, Miss L. Armstrong, an English masseuse who was residing in New South Wales, approached Professor Anderson Stuart and convinced him of the merits of massage. Miss Armstrong possessed a great driving force and was responsible for the formation of our Association.

The first meeting of the Council of the Association was held in August, 1905, with Professor Anderson Stuart as President.

Shortly after the formation of the Association, training was commenced at Royal Prince Alfred Hospital with Miss Annie Walker as the first instructress.

The Australian Massage Association came into being at a meeting in Melbourne on December 22, 1905, and the following resolutions were carried:—

1. To establish a system of registration of acknowledged Medical Masseurs and Masseuses.
2. To establish a uniform system of training and examination, to be of such standard as may be decided on by the medical profession and the Executive of this Association.
3. To promote the interests of the massage profession in all matters appertaining to their work.

I would now like to give a very brief outline of the pioneers of orthopaedic surgery and also orthopaedic nursing and physiotherapy.

I speak particularly of Hugh Owen Thomas, the originator of the Thomas splint. Although a qualified medical man, he was regarded as a charlatan by the orthodox practitioners of the time. The reason was he was the son of a "bonesetter", and was descended from a long line of "bonesetters". He was thus unorthodox in his treatment. He was able to utilize what was good in the craft of bonesetting and discard the harmful.

He it was who instituted the principles of joint treatment.

The inflamed joint was rested.

The joint which was recovering function was encouraged to increase its range of movement by active use. Certain joints were manipulated.

This man laboured in the densely populated dock area of Liverpool, and patients flocked to him from all over the North of England. He had his own blacksmith and the various calipers and supporting braces were made and fitted for the patients as they attended his surgery. It was in this atmosphere that this extraordinary man was joined by his nephew, Sir Robert Jones, the outstanding orthopaedic surgeon of his age.

Sir Robert was initiated into the mysteries and skills of his uncle's craft. However, it was Sir Robert, with his personality and charm, who later was able to convince the profession to accept the principles of Hugh Owen Thomas, which had been contemptuously rejected by his contemporaries. Even so, Sir Robert had a long uphill battle until "the time brought forth the man" and he was appointed surgical consultant to the British armies in the 1914-1918 war.

The immediate application of the Thomas Splint as a first aid measure to the compound fractures of the femur from gunshot wounds reduced the mortality rate at once from a formidable 80% to 20%. During that period he trained and inspired numerous orthopaedic surgeons from all over the English-speaking world. Our early pioneers in orthopaedic surgery in this country were all disciples of this outstanding individual.

I would now like to say a few words about another outstanding personality who contributed much to the advancement of orthopaedic surgery, orthopaedic nursing and physiotherapy — Dame Agnes Hunt. Once again we have the inspired leader changing the old order. Her life's story was an epic of courage.

Born of a "county" Shropshire family, she emigrated in her teens to Tasmania where she kept house for her brother in the "bush". She was troubled all her life with recurrent sepsis of one hip. It caused her to return to England. However, she decided to train as a nurse, an unheard of profession for a lady in those days.

After varying fortunes and poor health she became a patient of Sir Robert Jones, who corrected a deformity of her hip joint. As a result, she became intensely interested in the problem of the crippled, especially children. With a friend, she set up a hospital — by name "Baschurch" — for these children at her farmhouse home in the country. When the existing room space was full, the excess were housed in converted outhouses, many of which were open on one side. It was found that the tuberculous joint did extremely well in these primitive conditions, and this hospital was amongst the first to pioneer the open-air treatment of tuberculous bone and joint disease.

From Oswestry, she took the children by train to Liverpool. There she engaged a porter and a barrow to wheel the children to the Royal Southern Hospital where they were seen by Sir Robert Jones, who became a life-long friend, and began visiting Oswestry once a month on a Saturday. Patients were seen, and operations carried out on the kitchen table. Thus was born the Shropshire Orthopaedic Hospital or, as it is now called, the Agnes Hunt and Robert Jones Orthopaedic Hospital — the pioneer orthopaedic hospital of Britain. She it was who decided to train girls in both nursing and physiotherapy. The physiotherapy course was taken after completion of the nursing training.

In this unique institution in what appeared to be primitive conditions were trained some of the finest nurses I have ever worked with. The physiotherapists as you can imagine were of outstanding calibre and were in demand all over the world.

I count it as one of my greatest privileges to have been a house surgeon to Sir Robert Jones, and have worked at Oswestry while Dame Agnes was still there. The spirit of dedication which she inspired in all around her was a feature. Her remark: "No nurse is worth her salt if she had not the joy of life in her, and the power of sharing it with her patients," gives some idea of the prevailing spirit.

THE FUTURE

Tempores mutantur et nos in eis

The future of the practice of physiotherapy is inevitably linked with the future changes in the pattern of medical and surgical treatment.

We live in the atomic age, and the past 50 years has witnessed a complete revolution in our civilization. In common with other professional spheres, medicine and surgery have made their greatest progress during this time.

A great victory has been the conquest of sepsis by the discovery of antibiotics. As a result, surgery has been made safer.

There has come into practice the rapid and complete restoration of blood volume for the treatment of shock and blood loss with the result that many patients who previously would have died are now surviving.

Grafting is still experimental and a good deal has to be done yet before the host will accept a homograft, although tissue grafting has long been carried out, the most successful being that of bone grafting. Living structures are now replaced with inert substitutes, as, for example, the replacement of the head of the femur with the vitallium substitute or of the large vessels with plastic substitutes.

Chest surgery is a new field all to itself. It owes its rapid progress to better anaesthesia for operations on the lung. The heart is now being operated upon. This is possible because of machines to bypass the circulation and of refrigeration anaesthesia which lessens the body's requirement for oxygen.

However, from the point of view of the physiotherapist, these exciting fields which are being opened up mean that more severely injured patients are surviving, and that the physiotherapist is required more and more as a skilled member of the team which undertakes these "wonder operations".

The after-care of all these procedures demands rapid restoration of function, prevention of chest complications and early ambulation.

That briefly has been something of what is happening in surgery. No less dynamic changes have taken and are taking place in medicine.

Many diseases have been conquered by preventive medicine, in particular, poliomyelitis, which was one of the greatest cripplers, and attacked both adult and child. There is a positive approach to many conditions which were formerly passively accepted, while the patient became increasingly disabled, ending up with being bedridden. I speak particularly of the hemiplegics. So, too, the disseminated sclerosis sufferers have been given treatment and hope. The treatment of these patients has kept them in circulation in the community, and enabled them to be self-supporting. Chronic chest conditions are treated by a new positive approach which restores the vital capacity of the lungs and restores, if possible, their function.

It is true to say that in the future the physiotherapist will continue to play her part in the team. The time has changed when the surgeon was the prima donna and occupied the centre of the stage and was allowed to have fits of temperament. That has all altered. He is the leader of the team and is responsible for the smooth functioning and success of the team work. In that structure the physiotherapist will play a valued role, in some instances taking a very major part.

Trauma

Those who have to carry out treatment in the accident wards of any large public hospital cannot help remarking on the numbers, the severity and the multiplicity of the injuries of the patients admitted. Almost without exception the injuries are due to road accidents.

These cases are bringing their own medical and surgical problems. The severity and multiplicity of injury pose special problems of surgical care, nursing and immediate physiotherapy.

To give one example of a severe multiple injury successfully treated, a patient who suffered a severe crush injury sustained:—

1. Fracture dislocation of the lumbar spine with paraplegia.
2. Fracture of the upper third of the right femur.
3. Fracture dislocation of the pelvis with wide disruption of the symphysis pubis and the sacroiliac joint.
4. A severe wound in the perineum involving the rectum.

By skeletal suspension, devoted nursing and excellent teamwork from occupational therapists and physiotherapists this patient recovered to the extent of being able to walk with sticks. There was a bilateral residual paralysis of the foot and ankle.

This illustrates well the problems, which are the immediate problem of survival, and the long-term one of the outcome, with prevention of joint and limb deformity.

We are occasionally confronted with the patients who have survived exhibiting severe and crippling deformity which could easily have been prevented during treatment by foresight. Modern surgical treatment and after care is now so good that many survive who, prior to the war, would have been regarded as hopeless.

This brings up once again the necessity for the team approach of these problems. The experienced physiotherapist can often suggest plaster splints to the limbs beginning to deform because of unbalanced muscle activity.

Paraplegics

The treatment of the traumatic spinal injuries has been completely revolutionized.

Previously these unfortunate patients were to be seen in the chronic hospitals — bedridden, a mass of festering bed sores and with chronic urinary infection — awaiting death to relieve them of their misery.

Today, as the result of devoted team work by the medical, nursing and physiotherapy staffs, these patients are able to return to suitable work and lead restricted lives in the community with the aid of motor transport and the wheelchair. Perhaps in no other field has there been such a dramatic change in the prognosis.

These results are achieved by segregating these individuals into suitable hospitals which possess properly trained nursing and physiotherapy staff to treat the patients. There must also be adequate gymnasium, occupational and recreational facilities. These patients will continue to require these special centres. Dr. Guttman, of Stoke Mandeville,

initiated the first in Great Britain at the conclusion of the last war. Each state in Australia, with the exception of Tasmania, now has its centre and will continue to require the services of the physiotherapist and occupational therapist.

Training of the Amputee

There is another specialized branch of physiotherapy to which I would like to refer. It is the retraining of the amputee in the use of the artificial limb.

I was asked by the Repatriation Department to examine all the amputees of both wars. This was soon after the conclusion of the last war. It was a very revealing study. Briefly, we found that only about 5% of the upper limb amputees were using their prostheses. A bilateral lower limb amputee had been crawling on his stumps for years.

The limbs had been supplied, but there had been no training and supervision of their use. This is now completely changed and supervision and training is being given to these individuals to master their prostheses. This requires teamwork and close liaison between the limb maker, the surgeon, the physiotherapist, and the occupational therapist.

There is an increasing number of amputees in the community as the result of accidents, of senile gangrene in the aged, or of severe congenital deformities in children.

These patients will continue to call for the services of the physiotherapist and require special skill and knowledge.

Physiotherapy for Children and the Aged

Infantile paralysis has, I am glad to say, virtually been eliminated. However, the focus has now been centred on the children with cerebral palsy.

The children with good intelligence repay any treatment given them. Over the years there has been a completely new approach to this condition with a judicious blend of surgery combined with muscle re-education or simply muscle re-education alone. Excellent results are being obtained.

There is another crippling condition of children which is being conquered, and useful self-supporting citizens are growing to adult life as the result of a new approach to the problem. I speak of spina bifida with, perhaps, meningocele. The net result of the condition for those that survive the first year of life is a paraplegia of varying degree, presenting the same problems as the adult traumatic paraplegia. It is a cauda equinos lesion. However, with prevention and correction of lower limb deformity, adequate splintage and physiotherapy to teach them to walk, these children are growing into useful self-supporting citizens.

This is really worthwhile rehabilitation work.

There has also been a completely new approach to the aged patient. The hemiplegic is now being actually treated immediately and the whole outlook for the sufferers has changed. The outlook also for the patients with fractured neck of femur has dramatically altered. Immediate surgery allows early movement and early ambulation, with the result that these patients are no longer bedridden, but can continue to be self-supporting citizens.

Joint Manipulation

There is a large field which is at long last receiving the attention and support from the medical profession.

A large number of patients suffer from recurrent derangements of the spinal joints and proper appreciation of the underlying pathology enables these patients to be treated scientifically. Certain of these will benefit from manipulation. Others will benefit from spinal traction followed by manipulation. Others may require surgical treatment.

In the past there has been a great deal of muddled thinking about these cases with the result that the unqualified practitioners have been treating the patients. I feel quite sure that the future will see this problem solved and firm indications laid down for the rational treatment of these sufferers.

As well as the fields specifically mentioned, there are many others in which the work of the physiotherapist will continue to be required.

The relief of chronic joint and muscle pain by various forms of heat; the treatment of that large group of patients suffering from rheumatoid arthritis; the prevention of deformity from contraction of scar tissue and the preservation of joint function following burns; the treatment of nerve injuries, particularly the application of the time intensity curve test.

Rehabilitation

The long, hard road back to recovery and re-employment has been termed "rehabilitation". I suppose there has been no word so extensively used in the past 16 years. It is not a new approach, but simply a rediscovery of old methods successfully used.

It is rather interesting that in times of national stress, when manpower was required, these methods were employed. Sir Robert Jones employed occupational therapy in the war hospitals of the first world war. It was revived in a more intensive form in the second world war by Watson Jones. The lessons of the war have been adapted for general use to the civilian community. The increasing toll of the road has unfortunately given us the material to work upon.

It is interesting to note the advent of another specialist in the physiotherapy group to cater for the needs of the time. The remedial gymnast to carry out "hardening" exercises for groups.

Rehabilitation has come to stay and will progress. All types of patients will be rehabilitated in the future. However, I would sound a note of warning. In Sweden, which I visited some 6 years ago I was impressed by the splendid rehabilitation schemes, excellent quarters, facilities, medical and physiotherapy staffs. Their results, however, were very poor. The explanation was that in the social state of Sweden the invalid pension was very high with the result there was no incentive to recover.

The other aspect is the high cost of treatment. While visiting Boston a surgeon was reviewing some end results of the famous Smith Peterson Cup Arthroplasty. I enquired of the after-treatment, what physiotherapy was given. The answer by the surgeon was: "I give the after-treatment." I had been some time in the United States of America before I realized that the high cost of hospital and specialist treatment made physiotherapy treatment too expensive for the patient. Physiotherapy was given by the doctors.

It would be a sorry day if that state of practice became general in Australia.

CONCLUSION

From the foregoing remarks it is evident that, growing from an inspiring past, there will be a further and wider field for the practice of physiotherapy in the future.

Many of the patients will be required to be treated in special centres with all the necessary facilities. However, there will always be required the physiotherapist to treat the individual patient apart from such centres. Above all is required qualities of character in the physiotherapist, dedication and sense of purpose and courage, cheerfulness of spirit with ability to inspire the patient and bear with the querulous. Given these and a faith in her work, the physiotherapist will "move mountains".